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10/616,555

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Gargi Nalawade

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EXAMINER

SMARTH, GERALD A

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/616,555	Applicant(s) NALAWADE, GARGI	
	Examiner GERALD SMARTH	Art Unit 2446	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20,23-51 and 54-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20,23-51 and 54-58 is/are rejected.
- 7) ☒ Claim(s) 21,22,52 and 53 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. It is hereby acknowledged that 1061655 the following papers have been received and placed of record in the file: Remark date 01/18/08.

2. Claims 1-58 are presented for examination. Claim 1, 23, 25 is independent claim. The remaining claims are dependent on claim 1, 23, 25.

3. The Rejections are respectfully maintained and reproduced infra for application's convenience.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-20, 23-51, 54-58 are being rejected under 103(a) as being unpatentable over Chen (6392997), and Wong (5974465) in view of Pouyol (7165107).

Claim 1 & 32 states among a first quantity of update messages, formatting one or more of the updated messages to establish a first quantity of formatted update messages for a peer entity, is one of a peer group and a first peer, wherein the quantity of the formatted update messages is less than or equal to first quantity of the formatted update messages is less than or equal to the first quantity of update messages; and among the formatted update messages, enqueueing to a queue, one or more formatted update messages, wherein the quantity of enqueued formatted update messages is less or equal to the quantity of formatted update messages, and wherein at least one of the quantity of formatted update messages and the quantity of the enqueued formatted update messages is a programmable quantity. after all of the first quantity of update messages are formatted in said step of formatting messages for said first peer entity, formatting a second quantity of update messages for a second peer entity.

Chen teaches a quantity of update messages, formatting one or more of the update messages to establish a quantity of formatted update messages for a peer entity, wherein said peer entity is one of a peer group and a peer. Wherein the quantity of the formatted update messages is less than or equal to quantity of update messages; is less than or equal to quantity of update messages. Chen discloses “ In accordance with inventive technique, the interdomain router generates a routing update message

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comprising a message data portion and further generates a plurality of headers, each associated with a neighboring peer router. "(column 3 line 10) .

Chen however does not teach about a queue or enqueueing feature.

Wong teaches queue and enqueueing for, the formatted update messages enqueueing to a queue, one or more formatted update messages, to establish a quantity of enqueued formatted update messages, wherein the quantity of enqueued formatted update messages is less or equal to the quantity of formatted update messages. Wong discloses " The software then determines whether the new outbound packet is to be currently stored in the queue. This determination is based on a function of the priority of the packet, the number of buffers which were reserved for priorities are higher than the priority of the current packet, then the current packet is stored in the queue(Wong column 5 line 27-32).

Wong is combined to the Chen to show a message or data packet can be stored temporarily in a queue for the purposes of not elevating congestion on a network. The queue can be added to the memory of the primary application in order to modify it into a method for enqueueing formatted updated messages. Queueing is well known in the art for a cost effective way to store and manipulate messages in order to not overload the network. Thus it would have been obvious to one with ordinary skill in the art, from the previous teaching that queueing can be used in order to prioritize or store data with memory in a router which is provided in Chen's invention.

Chen nor Wong explicitly discloses after all of the first quantity of update messages are formatted in said step of formatting messages for said first peer entity, formatting a second quantity of update messages for a second peer entity.

However teaches after all of the first quantity of update messages are formatted in said step of formatting messages for said first peer entity, formatting a second quantity of update messages for a second peer entity. ***(Pouyoul discloses as indicated at 524, a second peer in the peer group may discover the advertised pipe. The second peer may discover the pipe advertisement, or alternatively may receive the pipe advertisement in a message received on the network or in an advertisement for a resource (e.g. the first peer, the peer group, or the service or application hosted by the first peer associated with the endpoint of the first peer). The second peer may then request information about the pipe as indicated at 526. In one embodiment, the second peer may send a query message formatted in accordance with a pipe binding protocol to the pipe service to discover information about the advertised pipe including endpoints bound to the pipe. The pipe service may then get the requested information as indicated at 528 and send the requested information, for example in a response message formatted in accordance with the pipe binding protocol, to the second peer as indicated at 530. Column 23 lines 20-36.)***

It would be obvious to a person of ordinary skill in the art at the time of the invention to modify Chen's technique for group-based routing update with limited per neighbor/adjacency and Wong's method and apparatus for prioritizing the enqueueing

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of outbound data packets in a network device with Pouyoul's system and method for dynamic, transparent migration of services. One of ordinary skill in the art would have been motivated to make this modification in order to have a more dynamic method of communication between devices. This would allow for less interfacing and thus causing a more reliable system. *Pouyoul discloses as yet another example, many devices such as cell phones, pagers, wireless email devices, Personal Digital Assistants (PDAs), and Personal Computers (PCs) may carry directory and calendar information. Currently, synchronization among the directory and calendar information on these devices is very tedious, if not impossible. Often, a PC becomes the central synchronization point, where every other device has to figure out a way to connect to the PC (using serial port, parallel port, IRDA, or other method) and the PC must have the device driver for every device that wishes to connect. Thus, it may be desirable to provide a mechanism by which these devices may interact with each other, without extra networking interfaces except those needed by the devices themselves, utilizing a common layer of communication and data exchange; Column 5 line 3-17*

Thus it would be obvious to combine Chen, Wong, and Pouyoul to arrive to limitations of claim 1.

Claims 2 & 33, Chen, Wong, in view of Pouyoul taught the method and processor to carry recited in claim 1, as described above. Chen further teaches comprising storing the formatted update messages in a cache associated with the peer entity". This is taught by the primary application Chen. Chen discloses " Specifically, the router

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generates the actual data contained in the update message and stores that data in a memory location of the router”(column 2 line 26-28)

Claims 3-5, 10, 11, 30, 34-36, 41, & 42, Chen, Wong, in view of Pouyoul taught are the methods and processors to carry out recited in a claim 1, as described above. Chen further teaches comprising of replicating one of the formatted update messages to establish a replica formatted update message. The method recited in claim 3, wherein said peer entity is a peer group, further comprising enqueueing said replica formatted update message to a queue associated with a peer in said peer group. The method recited in claim 4, further comprising transmitting a replica formatted update message from the queue associated with the peer group to a peer in the peer group. The method recited in claim 1 wherein the quantity of update messages to be formatted is a first quantity of update messages to be formatted, wherein the quantity of formatted update messages to be enqueued is programmable, wherein said peer entity is a first peer entity, the method further comprising: programmatically receiving the quantity of formatted update messages to be enqueued ; after all of the formatted update messages are enqueued in said step of enqueueing messages for said first peer entity, formatting a second quantity of update messages for a second peer entity. The system of Claim 1, further comprising one or more relational interfaces as alternatives to programmatic interfaces, each relational interface being associated with a corresponding relational data store and exposed within the data integration server during a bulk data transfer to enable the data integration server to read data entities

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directly from and write data entities directly to the corresponding relational data store during the bulk data transfer without using a programmatic interface. This is taught by the primary application Chen. Chen discloses "The updated message is update message is then replicated for a second neighbor by creating a second header containing the message pointer and the field pointer; this time, however, the second header contains a second value to be loaded into the referenced field for the second neighbor. (column 3 line 27-32)

Claims 6, 7, 8, 37 & 38, Chen, Wong, in view of Pouyoul taught are the method and processor to carry out recited in claim 1, as described above. Chen further teaches wherein each of the update messages is formatted is enqueued. This is taught by primary reference Chen. Chen states, According to the inventive technique, the interdomain router generates a routing update message comprising a message data portion 600 and further generates a plurality of headers 169 a=n, each associated with a neighboring peer router. (column 6 line 37-42)

Claims 9 & 40, Chen, Wong, in view of Pouyoul taught are the method and processor to carry out recited in claim 1, as described above. Chen further teaches wherein the quantity of update messages to be formatted is programmable. This is taught by primary reference Chen. Chen discloses the router also generates a first header that contains the message pointer and the field pointer, along with a first value to be loaded into the referenced field of the message data portion for the first neighbor. The update message

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is then replicated for a second neighbor by creating a second header containing the message pointer and the field pointer; this time however, the second header contains a second value to be loaded into the referenced field for the second neighbor. (column 3 line 23-32)

Claims 13 & 44, Chen, Wong, in view of Pouyoul taught are the method and processor to carry out recited in claim 1, as described above. Chen further teaches wherein the quantity of update messages to be formatted is a programmable, the method further comprising: programmatically receiving the quantity of update messages to be formatted; and after of the programmed quantity are formatted in said step of formatting, transmitting enqueued messages from the queue. This is taught by the primary reference Chen. Chen discloses, Immediately before transmitting the routing message to each neighbor, the content of the referenced field in the message data portion is replaced by the value contained in the header for each neighboring peer router. Thereafter, the message is transmitted to each neighbor.(column 3 line 34-48).

Claim 14 and 45, Chen, Wong, in view of Pouyoul taught he method and process recited in claim 1, as described above. Chen further teaches wherein the quantity of formatted update messages to be enqueued is programmable, the method further comprising: programming the quantity of formatted update messages to be enqueued; and after the formatted update messages of the programmed quantity are enqueued in said step of enqueueing, transmitting enqueued messages from the queue. A

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computer-readable medium comprising one or more sequences of instructions, which when executed by one or more processors, cause the one or more processors to carry out the steps recited in claim 14. This is being taught by Wong. Wong discloses "As discussed above, there may be instances when it is critical to transmit certain data packets." (Column 2 line 10-12)

Claim 15 and 46, Chen, Wong, in view of Pouyoul taught the method and process recited in claim 1, as described above. Chen further teaches wherein the quantity of update messages to be formatted is programmable, the method further comprising: if an amount of available memory is less than a threshold amount, ignoring the programmable quantity of quantity of update messages to be formatted; and formatting a pre-determined number of update messages. A computer-readable medium comprising one or more sequences of instructions, which when executed by one or more processors, cause the one or more processors to carry out the steps recited in claim 15. This is taught by Wong. Wong states "When the queue is nearly full, less important packets are discarded, and only those packets with the requisite degree of priority are stored in the queue buffers which were reserved." (column 2 line 45-48)

Claim 16, 20, 47 and 51, Chen, Wong, in view of Pouyoul taught the method and process recited in claim 1, as described above. Chen further teaches wherein the quantity of formatted update messages to be enqueued is programmable, the method further comprising: if an amount of available memory is less than a threshold amount,

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ignoring the programmable quantity of messages to be enqueued; and enqueueing a pre-determined number of messages. The method recited in claim 1, wherein the step of enqueueing comprises a step of suspending enqueueing of formatted update messages, if a memory limit is reached during formatting of update messages. A computer-readable medium comprising one or more sequences of instructions, which when executed by one or more processors, cause the one or more processors to carry out the steps recited in claim 16. A computer-readable medium comprising one or more sequences of instructions, which when executed by one or more processors, cause the one or more processors to carry out the steps recited in claim 20. This taught by Wong. Wong teaches "If the queue buffers are full, a data packet may be dropped, or the computer may have to periodically monitor the queue buffers to determine whether a slot has opened up." (column 2 line 5-8)

Claims 17 & 48, Chen, Wong, in view of Pouyoul taught are the method and processor to carry out recited in claim 1, as described above. Chen further teaches wherein said method is performed by a border gateway protocol process or application of a network device operating system. This is taught by Chen. Chen discloses an interdomain routing protocol, such as the Border Gateway Protocol (BGP, is used to perform interdomain routing (for the internetwork layer) through the computer network. (column 5 line 17-20). Wong is added to the Chen to show a message or data packet can be stored temporarily in a queue for the purposes of not elevating congestion on a network. The queue can be added to the memory of the primary application in order to modify it

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into a method for enqueueing formatted updated messages. Queueing is well known in the art for a cost effective way to store and manipulate messages in order to not overload the network.

Claims 23 & 54., Based on same motivation as in claim 1, Chen teaches a method for updating a plurality of peer entities in a point in a communication network comprising: **(Chen discloses “ In accordance with inventive technique, the interdomain router generates a routing update message comprising a message data portion and further generates a plurality of headers, each associated with a neighboring peer router. column 3 line 10)** processing an update message for a first peer entity with a first plurality of update messages, wherein said processing of an update message for the first peer entity comprises enqueueing formatted update messages to a queue associated with said first peer entity, and wherein said enqueueing ~~maybe~~ is suspended if when a programmable quantity of formatted update messages have been enqueued; and if the first peer entity has been updated with all of the plurality of update messages, updating a second peer entity with a second plurality of update messages. ***(Pouyoul discloses as indicated at 524, a second peer in the peer group may discover the advertised pipe. The second peer may discover the pipe advertisement, or alternatively may receive the pipe advertisement in a message received on the network or in an advertisement for a resource (e.g. the first peer, the peer group, or the service or application hosted by the first peer associated with the endpoint of the first peer). The second peer may then request information about the pipe as***

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indicated at 526. In one embodiment, the second peer may send a query message formatted in accordance with a pipe binding protocol to the pipe service to discover information about the advertised pipe including endpoints bound to the pipe. The pipe service may then get the requested information as indicated at 528 and send the requested information, for example in a response message formatted in accordance with the pipe binding protocol, to the second peer as indicated at 530. Column 23 lines 20-36.)

Claims 24 & 55.,Chen, Wong in view of Pouyoul taught the method recited in claim 23, further comprising: if-when enqueueing is suspended, transmitting one or more enqueued formatted update messages; and enqueueing one or more of the formatted update messages that were not yet enqueued. **(Wong discloses the software then determines whether the new outbound packet is to be currently stored in the queue. This determination is based on a function of the priority of the packet, the number of buffers which were reserved for priorities are higher than the priority of the current packet, then the current packet is stored in the queue(Wong column 5 line 27-32).**

Claims 25 , 27,& 56, Based on same motivation as in claim 1, Chen teaches a method for updating a plurality of peer entities in a communication network comprising: **(Chen discloses “ In accordance with inventive technique, the interdomain router generates a routing update message comprising a message data portion and**

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further generates a plurality of headers, each associated with a neighboring peer router. column 3 line 10)

processing an update message for a first peer entity with a first plurality of update messages, wherein said processing of an update message for the first peer entity comprises formatting one or more of the first plurality of update messages, and said formatting may be suspended if when a programmable quantity of the first plurality of update messages have been formatted; and if the first peer entity has been updated with all of the plurality of update messages, updating a second peer entity with a second plurality of update messages. *(Pouyoul discloses as indicated at 524, a second peer in the peer group may discover the advertised pipe. The second peer may discover the pipe advertisement, or alternatively may receive the pipe advertisement in a message received on the network or in an advertisement for a resource (e.g. the first peer, the peer group, or the service or application hosted by the first peer associated with the endpoint of the first peer). The second peer may then request information about the pipe as indicated at 526. In one embodiment, the second peer may send a query message formatted in accordance with a pipe binding protocol to the pipe service to discover information about the advertised pipe including endpoints bound to the pipe. The pipe service may then get the requested information as indicated at 528 and send the requested information, for example in a response message formatted in accordance with the pipe binding protocol, to the second peer as indicated at 530. Column 23 lines 20-36.)*

Claims 26 & 57, Chen, Wong in view of Pouyoul taught the method recited in claim 25, as described above. Pouyoul further comprising: if when formatting is suspended, transmitting one or more enqueued formatted update messages; and formatting one or more update messages that were not yet formatted. ***(Pouyoul discloses as indicated at 524, a second peer in the peer group may discover the advertised pipe. The second peer may discover the pipe advertisement, or alternatively may receive the pipe advertisement in a message received on the network or in an advertisement for a resource (e.g. the first peer, the peer group, or the service or application hosted by the first peer associated with the endpoint of the first peer). The second peer may then request information about the pipe as indicated at 526. In one embodiment, the second peer may send a query message formatted in accordance with a pipe binding protocol to the pipe service to discover information about the advertised pipe including endpoints bound to the pipe. The pipe service may then get the requested information as indicated at 528 and send the requested information, for example in a response message formatted in accordance with the pipe binding protocol, to the second peer as indicated at 530. Column 23 lines 20-36.)***

Claims 27 & 58. Chen, Wong in view of Pouyoul taught the method recited in claim 25, further comprising the step of storing formatted update messages in one or more caches. ***(Pouyoul discloses the peer-to-peer platform provides the ability to***

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replicate information toward end users. Popular content tends to be replicated more often, making it easier to find as more copies are available. Peers do not have to always go back to the same peer to obtain the information they want, as is typical in the client/server model. Peers may obtain information from neighboring peers that have already cached the information. Each peer may become a provider to all other peers. Column 13 lines 5-10)

Claim 30 Chen, Wong, in view of Pouyoul taught the apparatus of claim 29, as described. Chen teaches further comprising a mechanism for replicating the formatted update messages. This is taught by Chen. Chen states that is, the BGP router may generate an update message for one neighbor and then replicate that message for all other neighbors in accordance with a conventional replication process. (column 2 line 22)

Claim 40, Chen, Wong, in view of Pouyoul taught a computer-readable medium comprising one or more sequences of instructions, which when executed by one or more processors, cause the one or more processors to carry out the steps recited in claim 9. (Chen discloses In a large network, the technique of grouping neighboring peer routers according to common subnets substantially reduces memory and processor

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utilization, thereby increasing the rate of (i.e., speeding-up) routing updates. (Column 2 lines 26-39)

Allowable Subject Matter

6. Claim 21, 22, 52, & 53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments with respect to claims 1-20, 23-51, 54-58 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gerald Smarth whose telephone number is (571)270-1923. The examiner can normally be reached on Monday-Friday(7:30am-5:00pm)est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu can be reached on (571)272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/G. S./

Examiner, Art Unit 2446

/Jeffrey Pwu/

Supervisory Patent Examiner, Art Unit 2446